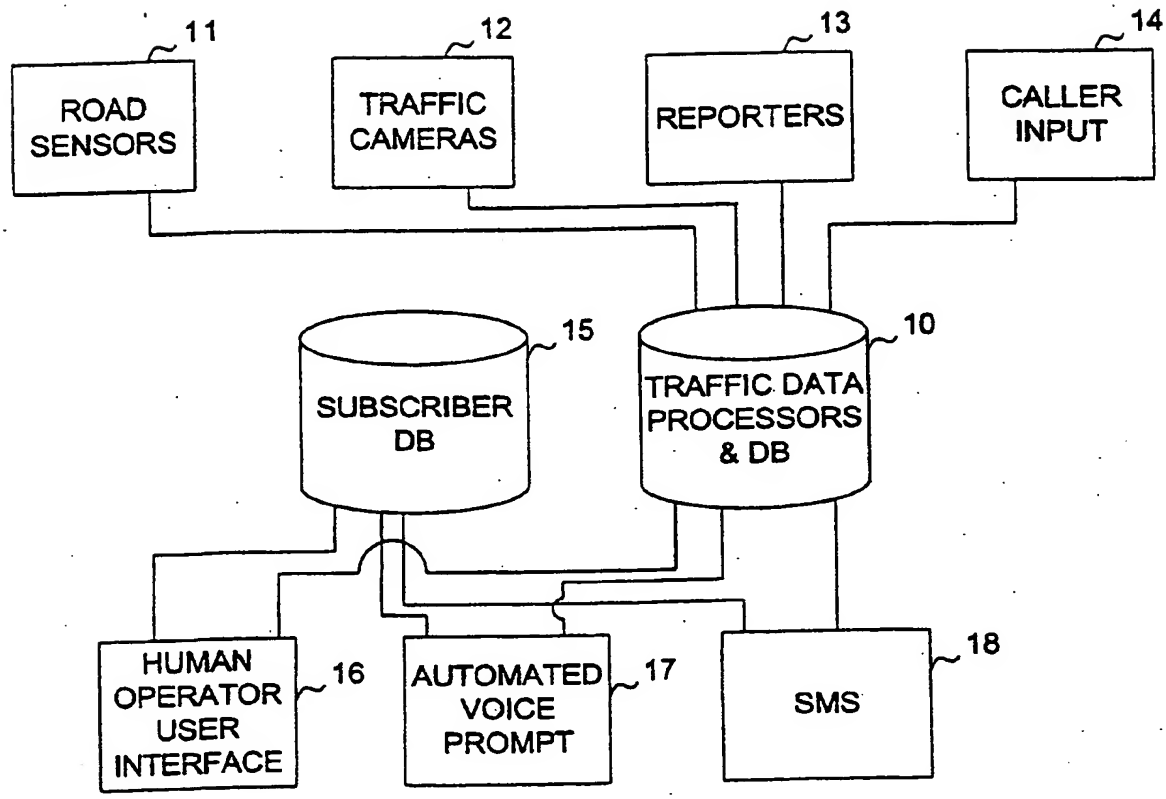
FIG. 1


11
ROAD SENSORS
12
TRAFFIC CAMERAS
13
REPORTERS
14
CALLER INPUT
15
SUBSCRIBER DB
10
TRAFFIC DATA PROCESSORS & DB
HUMAN OPERATOR USER INTERFACE
16
AUTOMATED VOICE PROMPT
17
SMS
18

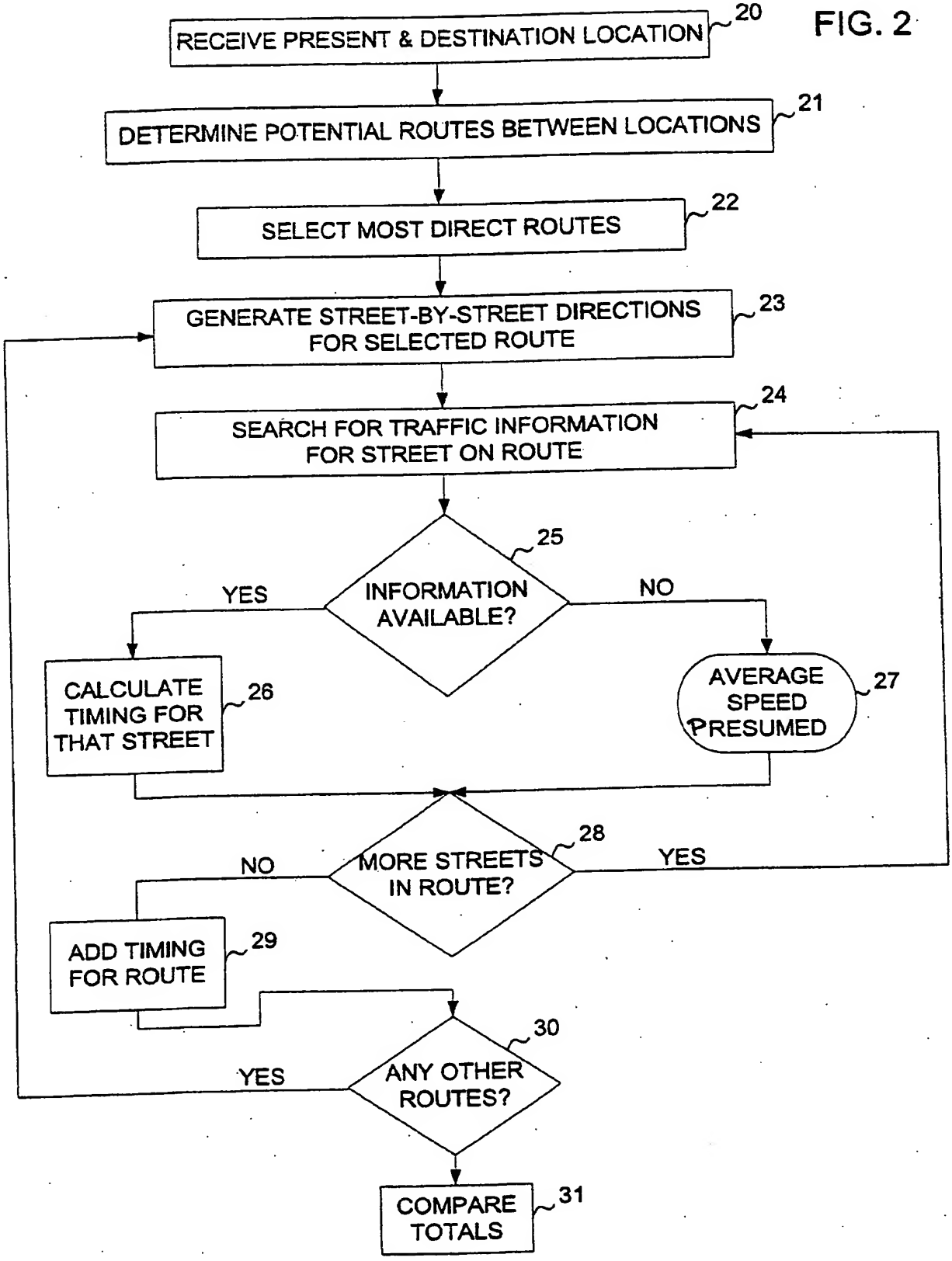

RECEIVE PRESENT & DESTINATION LOCATION
20
DETERMINE POTENTIAL ROUTES BETWEEN LOCATIONS
21
SELECT MOST DIRECT ROUTES
22
GENERATE STREET-BY-STREET DIRECTIONS FOR SELECTED ROUTE
23
SEARCH FOR TRAFFIC INFORMATION FOR STREET ON ROUTE
24
INFORMATION AVAILABLE?
25
YES
NO
CALCULATE TIMING FOR THAT STREET
26
AVERAGE SPEED PRESUMED
27
MORE STREETS IN ROUTE?
28
NO
YES
ADD TIMING FOR ROUTE
29
ANY OTHER ROUTES?
30
YES
COMPARE TOTALS
31

FIG. 2

Figure 3

Present Location: Rt. 23N, b/t 1st St. & 2nd St.

Destination Location: HWY 350 at I395

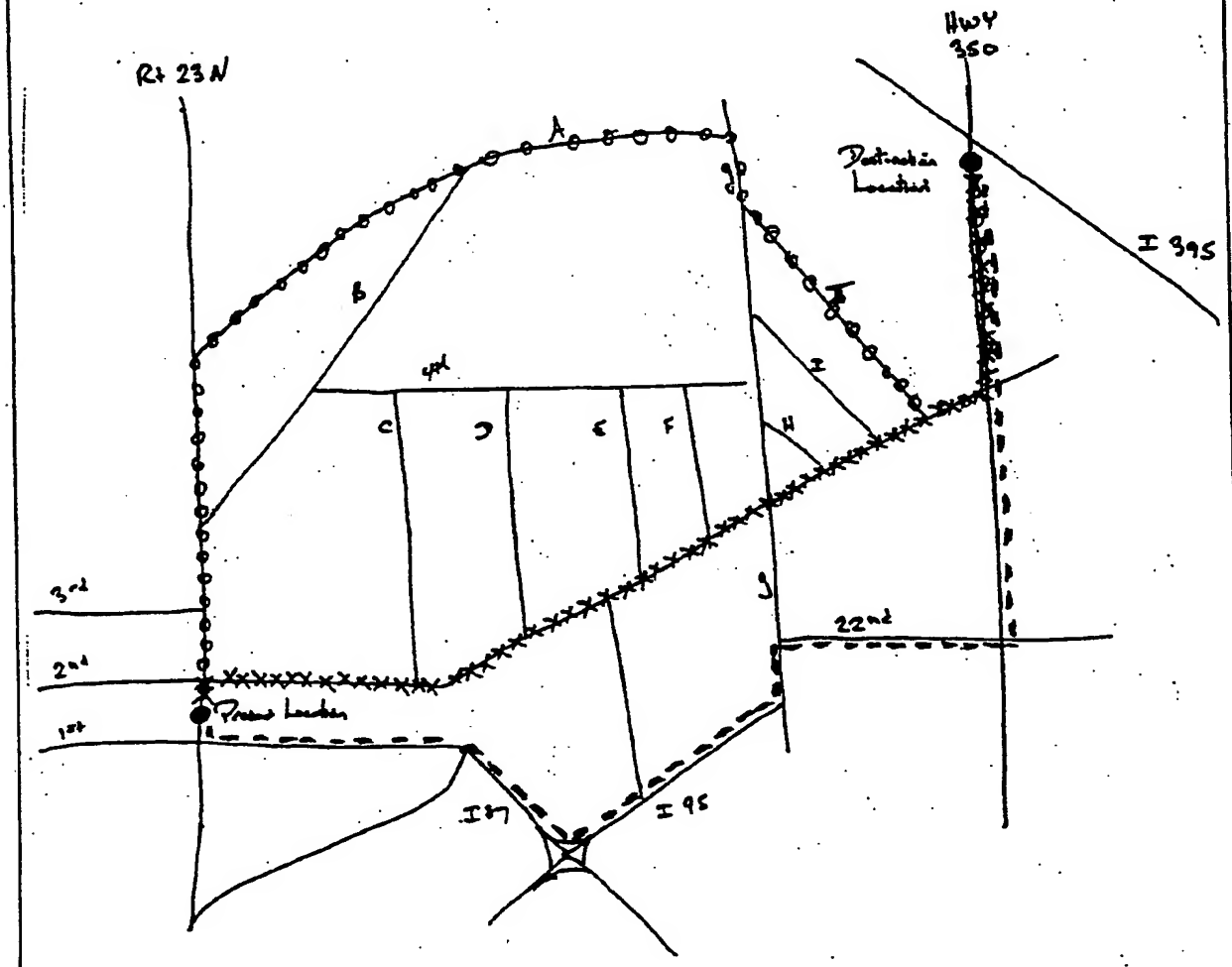


FIG. 4

ROUTE	STREET	STRETCH OF ROAD	DISTANCE
(A)	(1)	Rt 23 N, b/t 1st & A Sts.,	3 mi
	(2)	A St. W, b/t Rt 23 N & G St.,	6 mi
	(3)	G St. S, b/t A St. & J St.,	1 mi
	(4)	J St. SW, b/t G St. & 2nd St.	2 mi
	(5)	2nd St. NW, b/t J St. & Hwy 350	0.5 mi
	(6)	Hwy 350 N, b/t J St. & Hwy 350	5 mi
(B)	(1)	Rt 23 N, b/t 1st & 2nd Sts.	0.5 mi
	(2)	2nd St. W, b/t Rt 23N & Hwy 350	6 mi
	(3)	Hwy 350 N, b/t Rt 23N & Hwy 350	5 mi
(C)	(1)	Rt 23 S, b/t 2nd & 1st Sts.	.5 mi
	(2)	1st St. W, b/t Rt 23 & I-87	2 mi
	(3)	I-187 SW, b/t 1st St. & I-95	2 mi
	(4)	I-95 NW, b/t I-87 & G St.	6 mi
	(4)	G St. N, b/t I-95 & 22nd St.	1 mi
	(5)	22nd St. W, b/t G St. & Hwy 350	3 mi
	(6)	Hwy 350 N, b/t G St. & Hwy 350	10 mi

FIG. 5

		List of Streets in Route	Mi.	Average MPH	# of Traffic Lights	Traffic Advisory/Category	Estimated MPH	Traffic light timing	Time
	(1)	Rt 23 N, b/t 1st & A Sts.,	3 mi	45 mph	1	None	45 mph	+1 min	5 min
	(2)	A St. W, b/t Rt 23 N & G St.,	6 mi	45 mph	0	Congestion, Category 3	25 mph	0 min	14 min
(A)	(3)	G St. S, b/t A St. & J St.,	1 mi	15 mph	1	None	15 mph	+ 2 min	6 min
	(4)	J St. SW, b/t G St. & 2nd St.	2 mi	30 mph	0	Congestion, Category 4	25 mph	0	4.5 min
	(5)	2nd St. NW, b/t J St. & Hwy 350	0.5 mi	15 mph	1	Congestion, Category 2	8 mph	+ 1 min	5 min
	(6)	Hwy 350 N, b/t J St. & Hwy 350	5 mi	55 mph	0	None	55 mph	0	5.5 min
		TOTAL TIME FOR ROUTE "A" = 40 MINUTES							
	(1)	Rt 23 N, b/t 1st & 2nd Sts.	0.5 mi	45 mph	1	None	45 mph	+ 1 min	1.5 min
(B)	(2)	2nd St. W, b/t Rt 23N & Hwy 350	6 mi	15 mph	8	Congestion, Category 4	12 mph	+ 8 min	38 min
	(3)	Hwy 350 N, b/t Rt 23N & Hwy 350	5 mi	55 mph	0	None	55 mph	0	5.5 min
		TOTAL TIME FOR ROUTE "B" = 45 MINUTES							
	(1)	Rt 23 S, b/t 2nd & 1st Sts.	.5 mi	45 mph	1	None	45 mph	+ 1 min	2.5 min
	(2)	1st St. W, b/t Rt 23 & I-87.	2 mi	35 mph	0	None	35 mph	0	3.5 min
(C)	(3)	I-187 SW, b/t 1st St. & I-95	2 mi	65 mph	0	None	65 mph	0	2.0 min
	(4)	I-95 NW, b/t I-87 & G St.	6 mi	65 mph	0	Accident, Category 1	8 mph	0	45 min
	(5)	G St. N, b/t I-95 & 22nd St.	1 mi	25 mph	1	None	25 mph	1	3.4 min
	(6)	22nd St. W, b/t G St. & Hwy 350	3 mi	50 mph	0	None	50 mph	0	3.6 min
	(7)	Hwy 350 N, b/t G St. & Hwy 350	10 mi	55 mph	0	None	55 mph	0	5.5 min
		TOTAL TIME FOR ROUTE "C" = 65 MINUTES							

FIG. 6

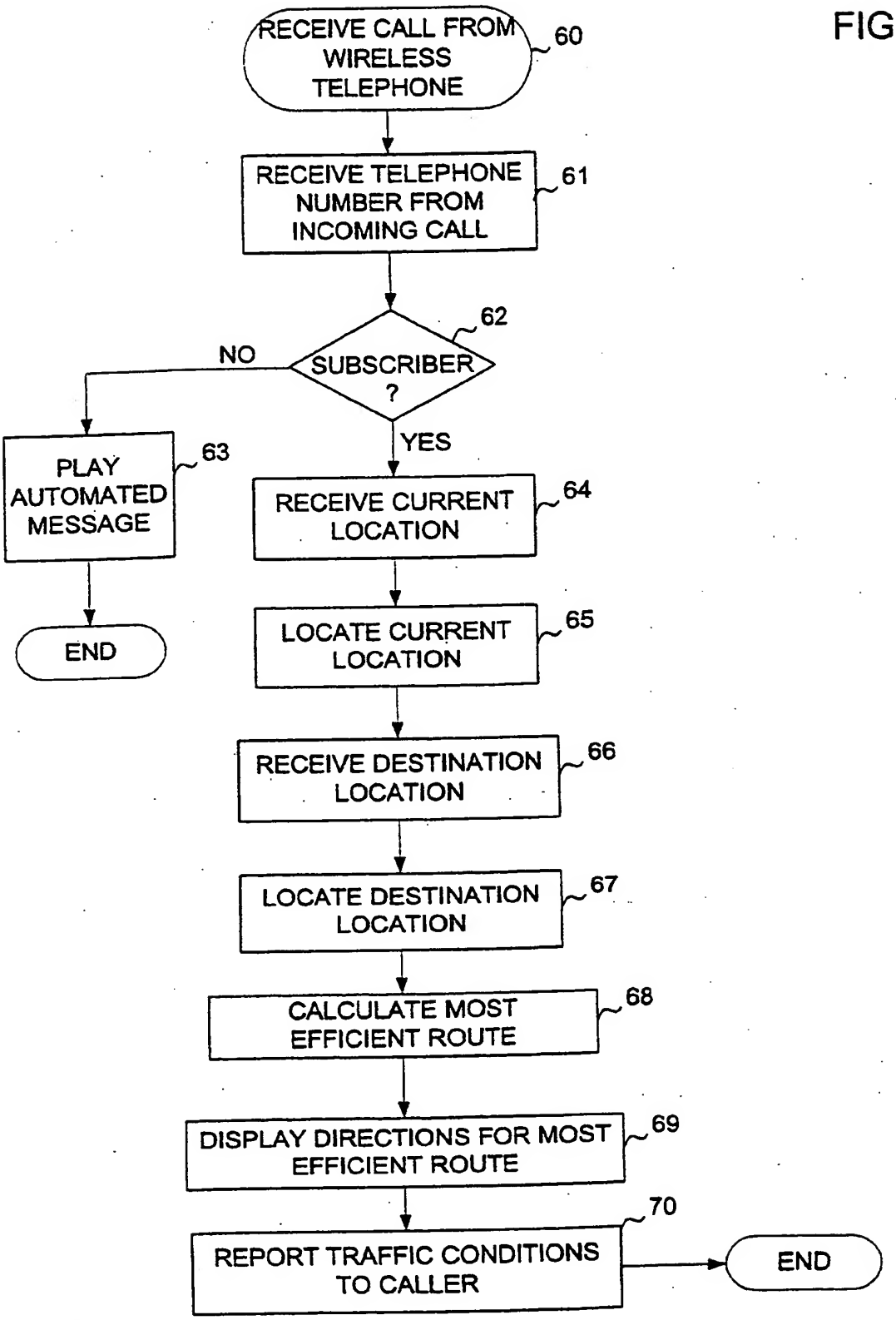

RECEIVE CALL FROM WIRELESS TELEPHONE
60
RECEIVE TELEPHONE NUMBER FROM INCOMING CALL
61
SUBSCRIBER ?
62
NO
YES
PLAY AUTOMATED MESSAGE
63
END
RECEIVE CURRENT LOCATION
64
LOCATE CURRENT LOCATION
65
RECEIVE DESTINATION LOCATION
66
LOCATE DESTINATION LOCATION
67
CALCULATE MOST EFFICIENT ROUTE
68
DISPLAY DIRECTIONS FOR MOST EFFICIENT ROUTE
69
REPORT TRAFFIC CONDITIONS TO CALLER
70
END

Figure 7

Present Location: I-495, Tysons Corner, VA

Destination Location: Rockville Pike, Rockville, MD

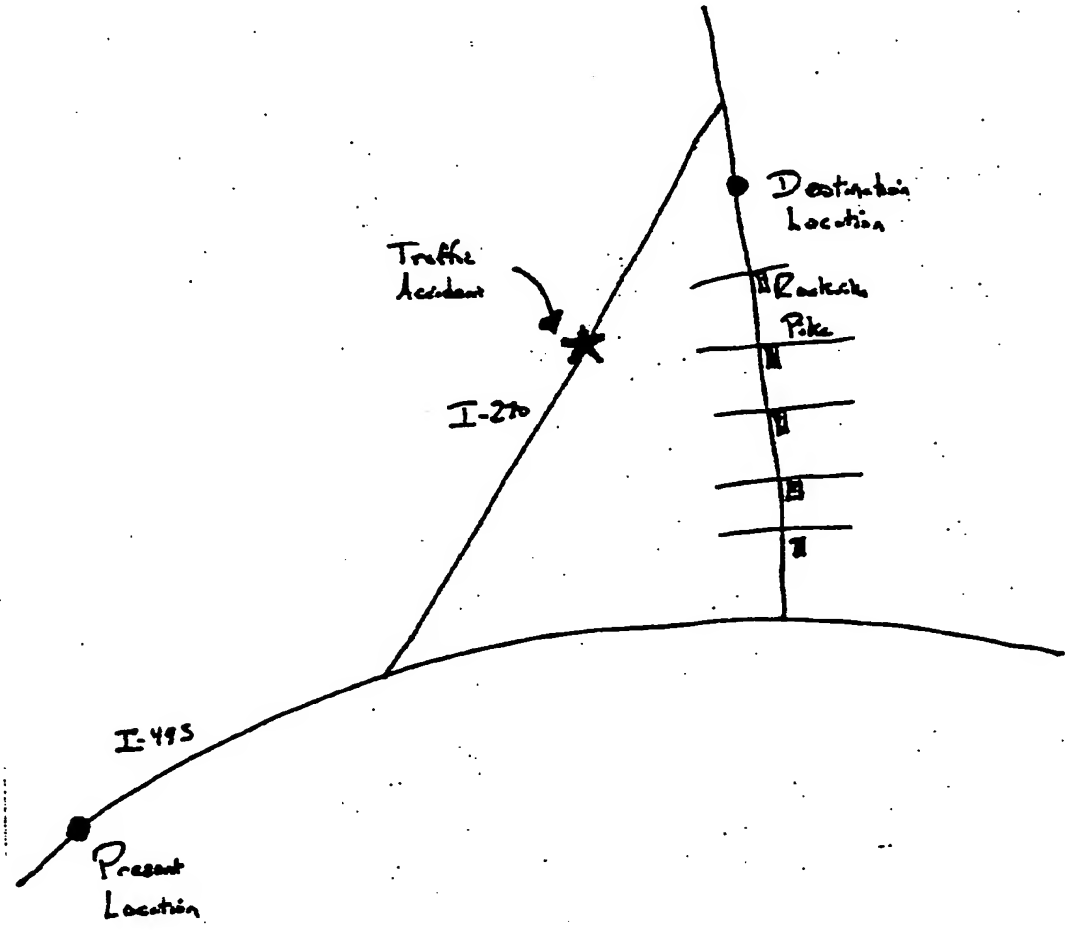


FIG. 8

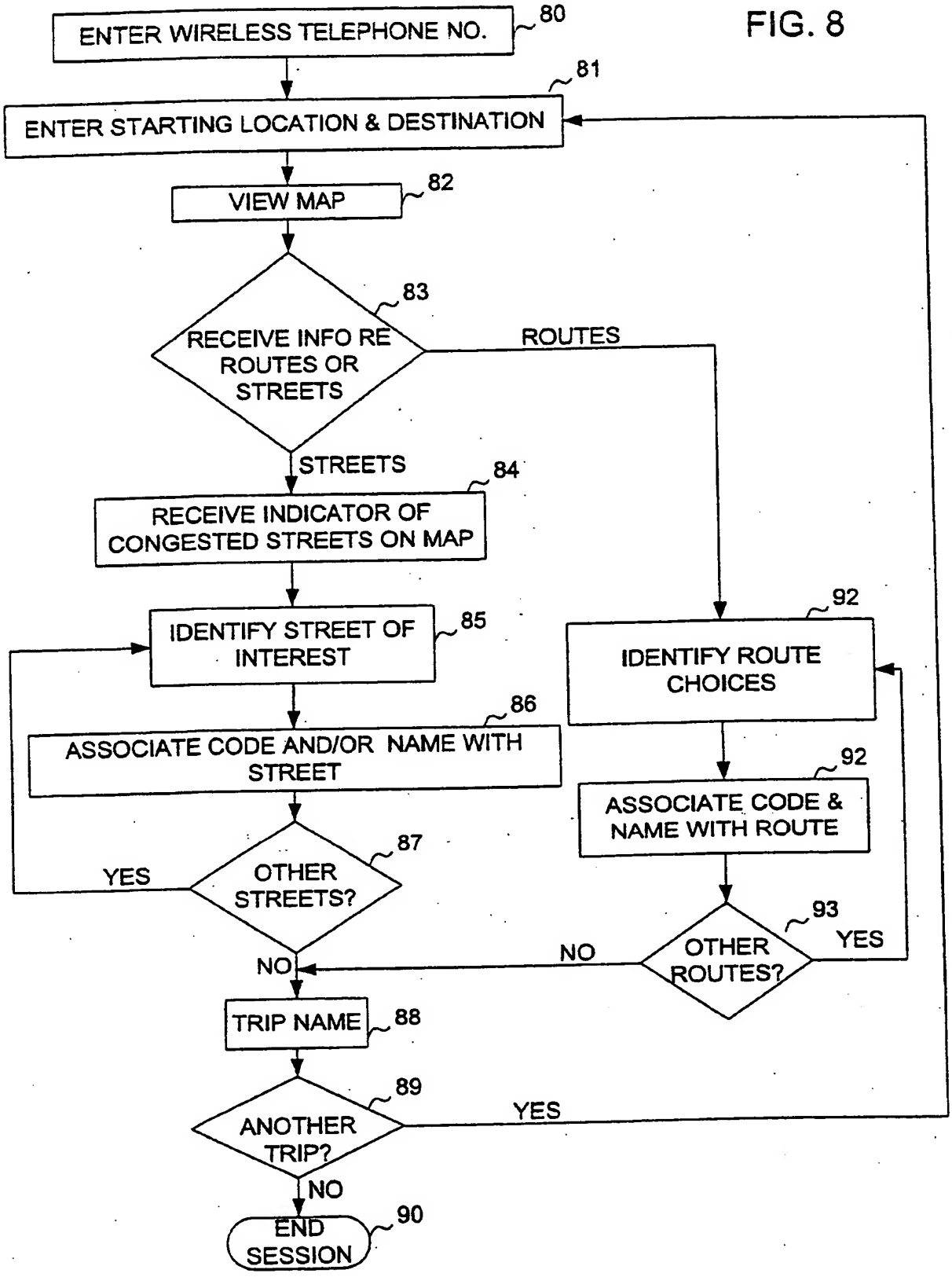
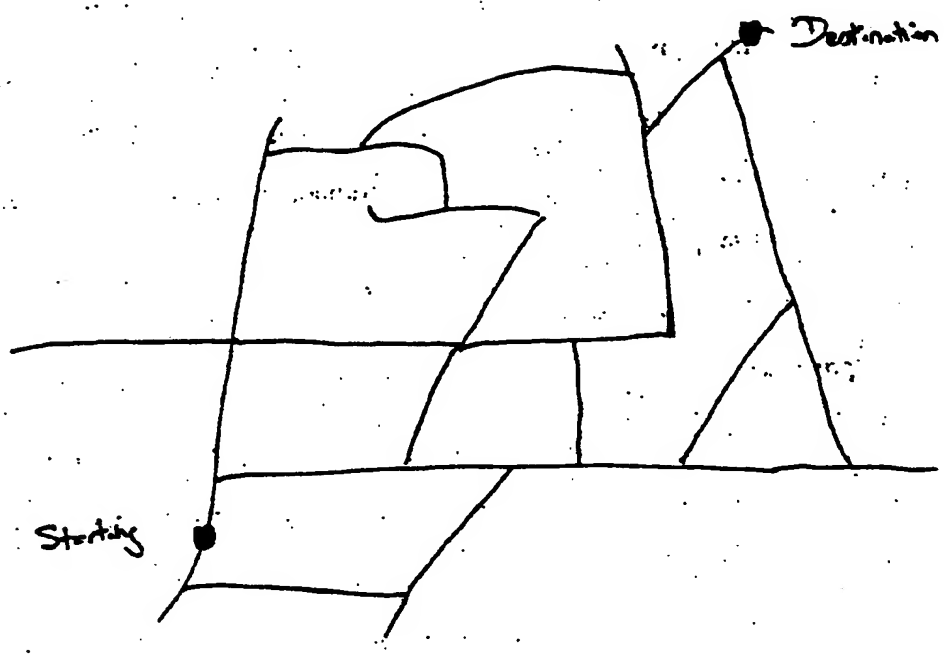

ENTER WIRELESS TELEPHONE NO.
80
ENTER STARTING LOCATION & DESTINATION
81
VIEW MAP
82
RECEIVE INFO RE ROUTES OR STREETS
83
ROUTES
STREETS
RECEIVE INDICATOR OF CONGESTED STREETS ON MAP
84
IDENTIFY STREET OF INTEREST
85
ASSOCIATE CODE AND/OR NAME WITH STREET
86
OTHER STREETS?
87
YES
NO
TRIP NAME
88
ANOTHER TRIP?
89
YES
NO
END SESSION
90
IDENTIFY ROUTE CHOICES
92
ASSOCIATE CODE & NAME WITH ROUTE
92
OTHER ROUTES?
93
YES
NO

Figure 9A

Enter Cellular Telephone Number: 404-628-5465

Enter Starting Location: 1459 Peachtree Street

Enter Destination Location: 154 Barbados Place

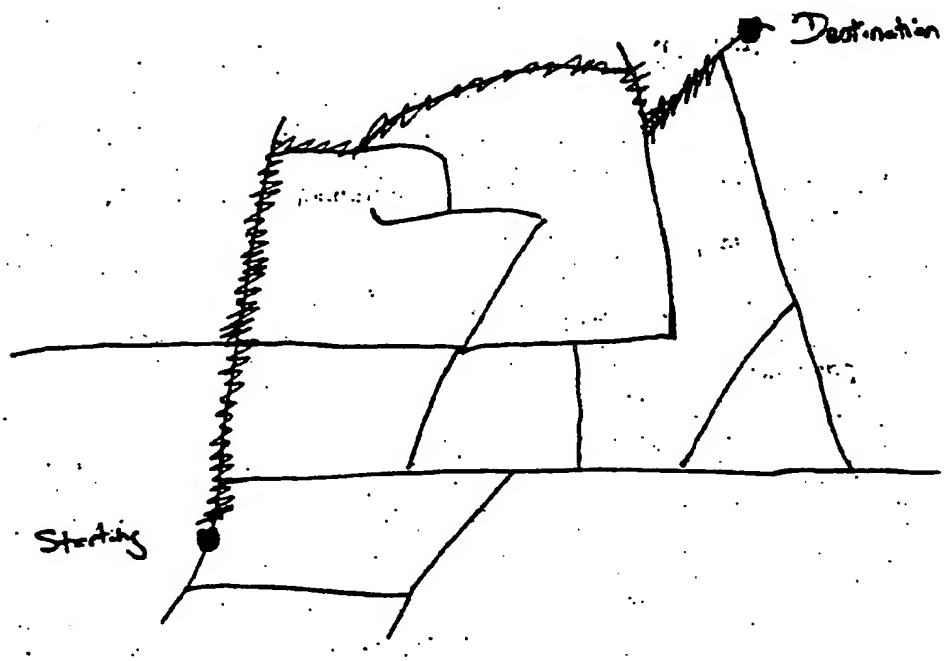


Receive Information for: ○ Streets ● Routes

Identify Trip: Commute Home

Figure 9B

Identify Route:

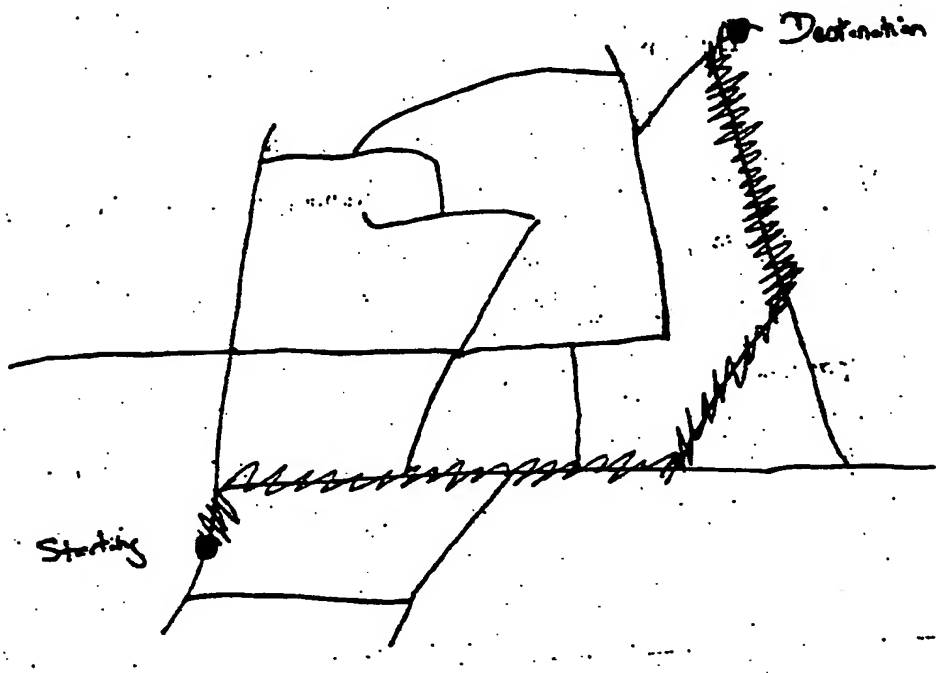


Identify Name of Route: Along Peachtree

Identify Another Route: ● Yes ○ No

Figure 9C

Identify Route:

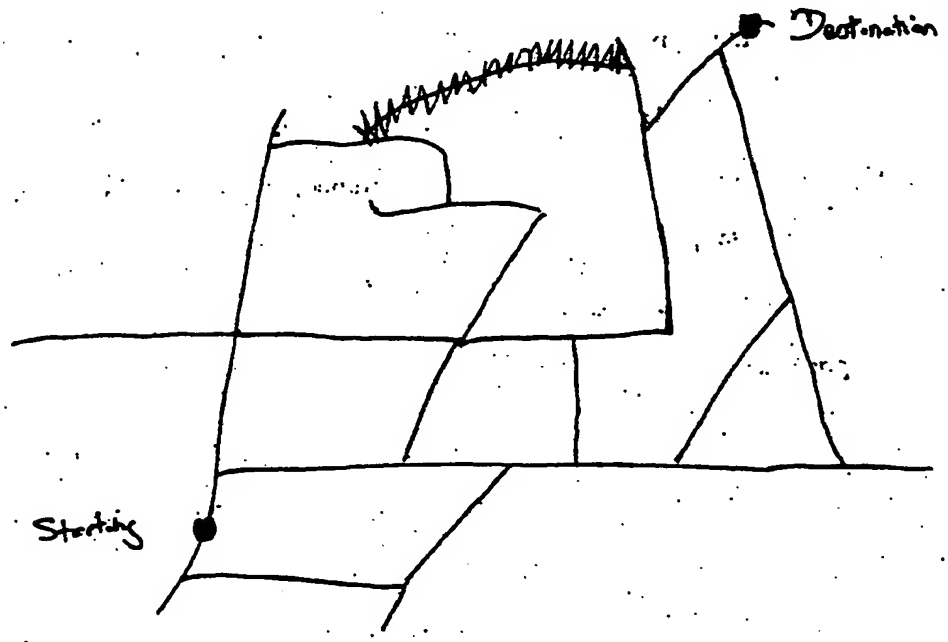


Identify Name of Route: Along Midtown

Identify Another Route: ○ Yes ● No

Figure 10A

Identify Street:

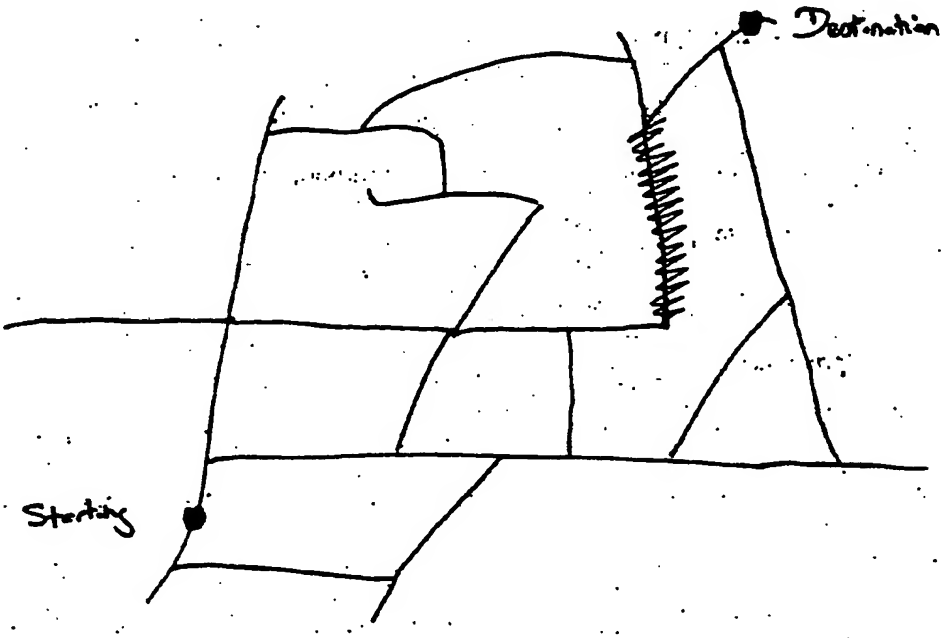


Identify Name of Street: Third Street

Identify Another Street: ● Yes ○ No

Figure 10B

Identify Street:



Identify Name of Street: Jay Street

Identify Another Street: ○ Yes ● No

FIG. 11

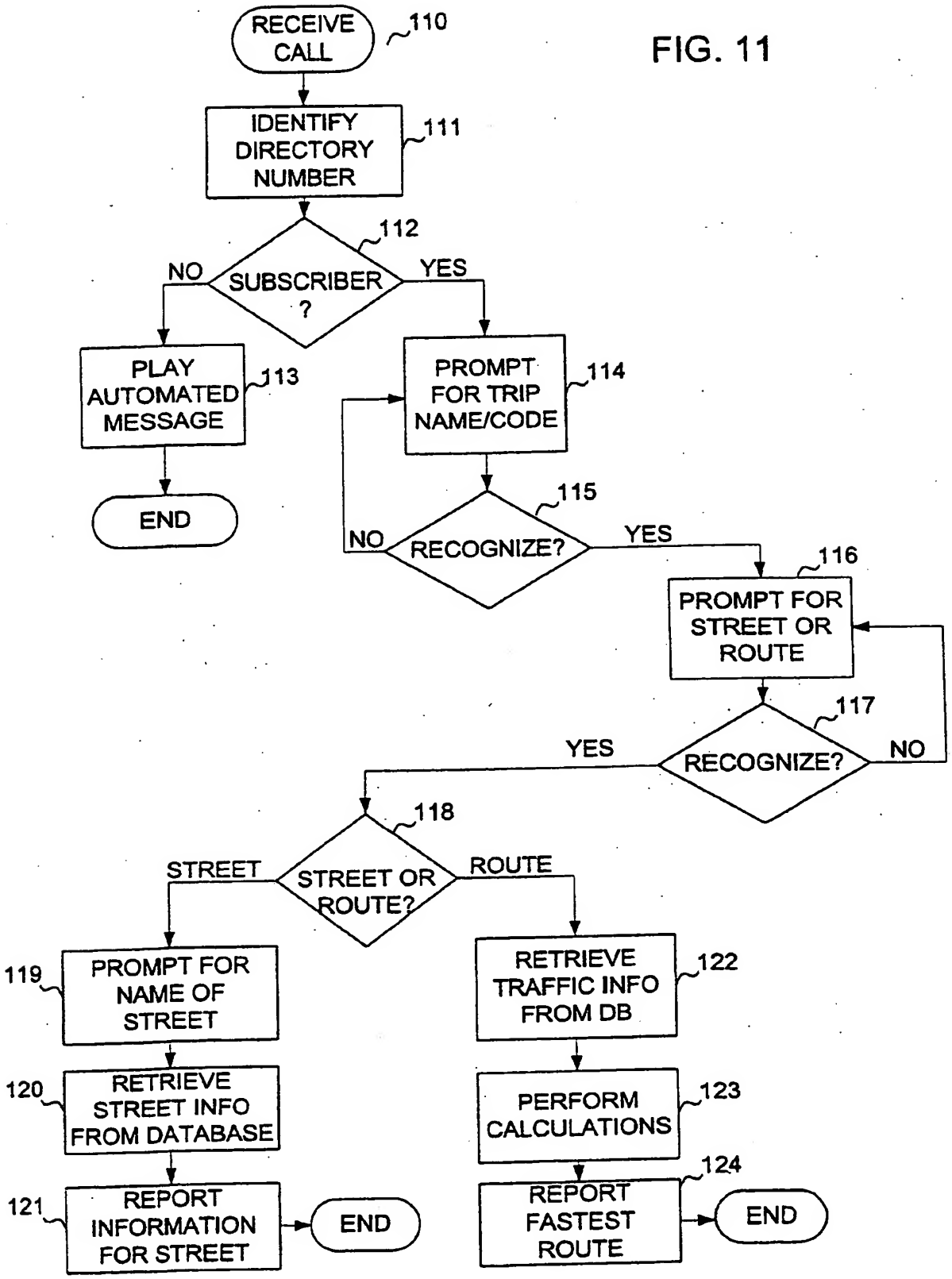

RECEIVE CALL
110
IDENTIFY DIRECTORY NUMBER
111
112
SUBSCRIBER ?
NO
YES
PLAY AUTOMATED MESSAGE
113
END
PROMPT FOR TRIP NAME/CODE
114
115
RECOGNIZE?
NO
YES
116
PROMPT FOR STREET OR ROUTE
117
RECOGNIZE?
YES
NO
118
STREET OR ROUTE?
STREET
ROUTE
119
PROMPT FOR NAME OF STREET
120
RETRIEVE STREET INFO FROM DATABASE
121
REPORT INFORMATION FOR STREET
END
RETRIEVE TRAFFIC INFO FROM DB
122
PERFORM CALCULATIONS
123
124
REPORT FASTEST ROUTE
END

FIG. 12A

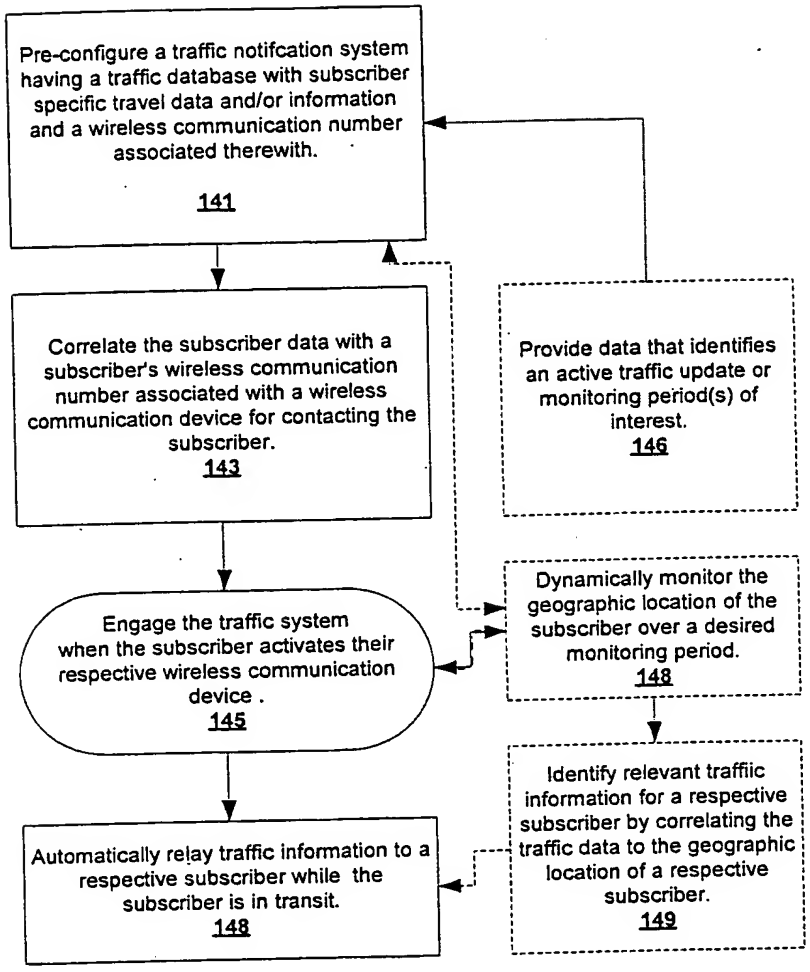

Pre-configure a traffic notifcation system having a traffic database with subscriber specific travel data and/or information and a wireless communication number associated therewith.
141
Correlate the subscriber data with a subscriber's wireless communication number associated with a wireless communication device for contacting the subscriber.
143
Engage the traffic system when the subscriber activates their respective wireless communication device .
145
Automatically relay traffic information to a respective subscriber while the subscriber is in transit.
148
Provide data that identifies an active traffic update or monitoring period(s) of interest.
146
Dynamically monitor the geographic location of the subscriber over a desired monitoring period.
148
Identify relevant traffiic information for a respective subscriber by correlating the traffic data to the geographic location of a respective subscriber.
149

FIG. 12B

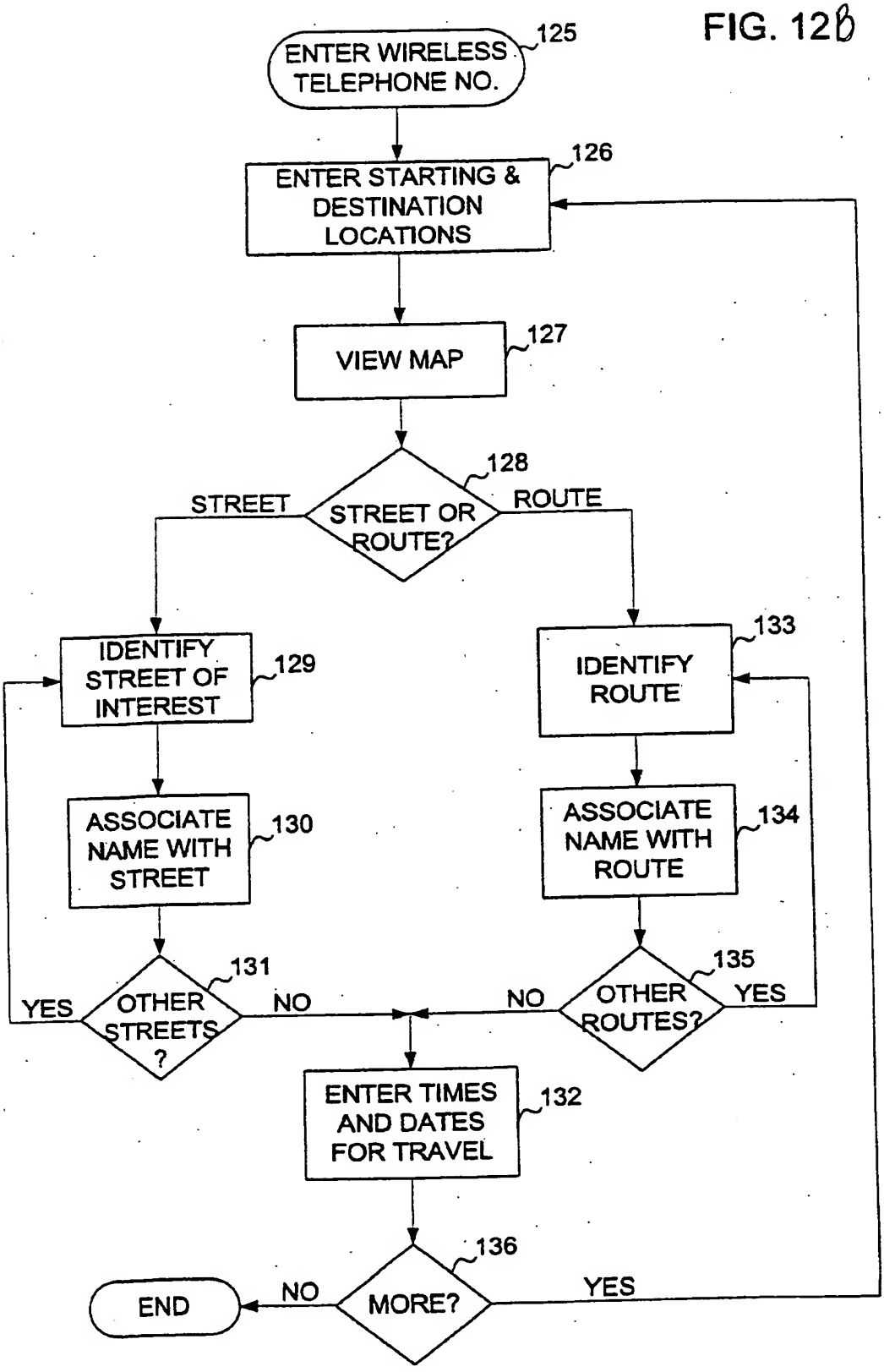

ENTER WIRELESS TELEPHONE NO.
125
ENTER STARTING & DESTINATION LOCATIONS
126
VIEW MAP
127
STREET OR ROUTE?
128
STREET
ROUTE
IDENTIFY STREET OF INTEREST
129
ASSOCIATE NAME WITH STREET
130
OTHER STREETS ?
131
YES
NO
IDENTIFY ROUTE
133
ASSOCIATE NAME WITH ROUTE
134
OTHER ROUTES?
135
NO
YES
ENTER TIMES AND DATES FOR TRAVEL
132
MORE?
136
NO
YES
END

Fig. 13

SUBSCRIBER DATABASE

CLIENT: JOHN DOE DIRECTORY NUMBER: (404) 555-1325 INFORMATION REPORTING FORMAT: SMS	
1.	STREET: HALLOWELL DRIVE, NORTH LOCATION: BETWEEN 3RD & 5TH STS. TIME: 12:00 PM DAYS OF WEEK: SATURDAY
2.	ROUTE: ALONG CHERRY VALLEY STREETS: (1) RT 23 N, B/T 1ST & A STS., 3 MI (2) A ST. W, B/T RT 23 N & G ST., 6 MI (3) G ST. S, B/T A ST. & J STS., 1 MI (4) 2ND ST. NW, B/T J ST. & S STS., 5 MI TIME: 8:00 AM DAYS OF WEEK: WEEKDAYS COMPARE WITH: "ALONG HIGHWAY"
3.	ROUTE: ALONG HIGHWAY STREETS: (1) I-395, B/T EXIT 35 & EXIT 47, 10 MI (2) BACKLICK ROAD, B/T I-395 & _____ RD, 3 MI TIME: 8:00 AM DAYS OF WEEK: WEEKDAYS COMPARE WITH: "ALONG CHERRY VALLEY"

FIGURE 14

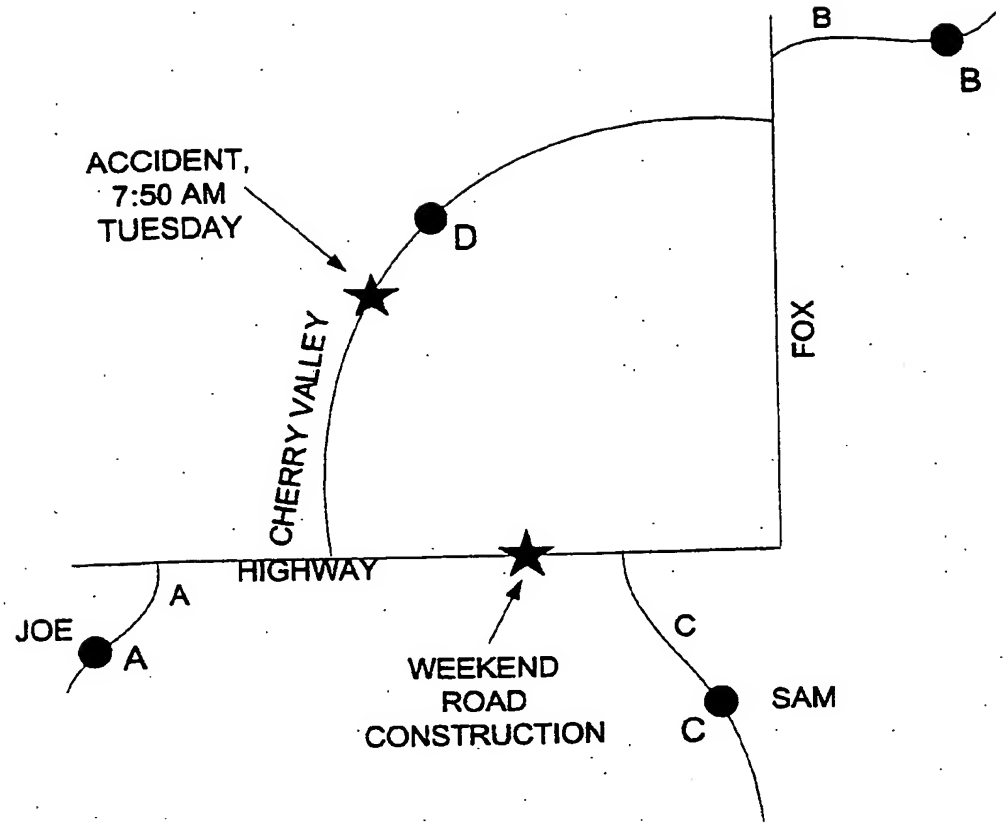

B
B
ACCIDENT,
7:50 AM
TUESDAY
D
FOX
CHERRY VALLEY
HIGHWAY
A
JOE
A
C
WEEKEND
ROAD
CONSTRUCTION
SAM
C

FIGURE 15

	TIME/DAY	SUBSCRIBER NO./NAME	ROUTE/ STREET	INFO
1.	8:00 AM, MONDAY	555-1212/JOE	ROUTE	A HIGHWAY FOX B = "ALONG HIGHWAY" A CHERRY VALLEY FOX B = "ALONG CHERRY VALLEY"
2.	11:00 AM, MONDAY	650-1324/SARAH	STREET	FOX STREET, B/T HIGHWAY & B
3.	3:30 PM, MONDAY	924-3526/TONY	ROUTE	C FOX B = "BY FOX" C HIGHWAY D FOX B = "DETOUR"
4.	5:00 AM, TUESDAY	999-1234/SAM	STREET	HIGHWAY, B/T A & C
5.	8:00 AM, TUESDAY	555-1212/JOE	ROUTE	A HIGHWAY FOX B = "ALONG HIGHWAY" A CHERRY VALLEY FOX B = "ALONG CHERRY VALLEY"
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
6.	12:00 PM, SATURDAY	999-1234/SAM	STREET	HIGHWAY, B/T A & C
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.

Automated and Location Based Traffic Notification System Architecture

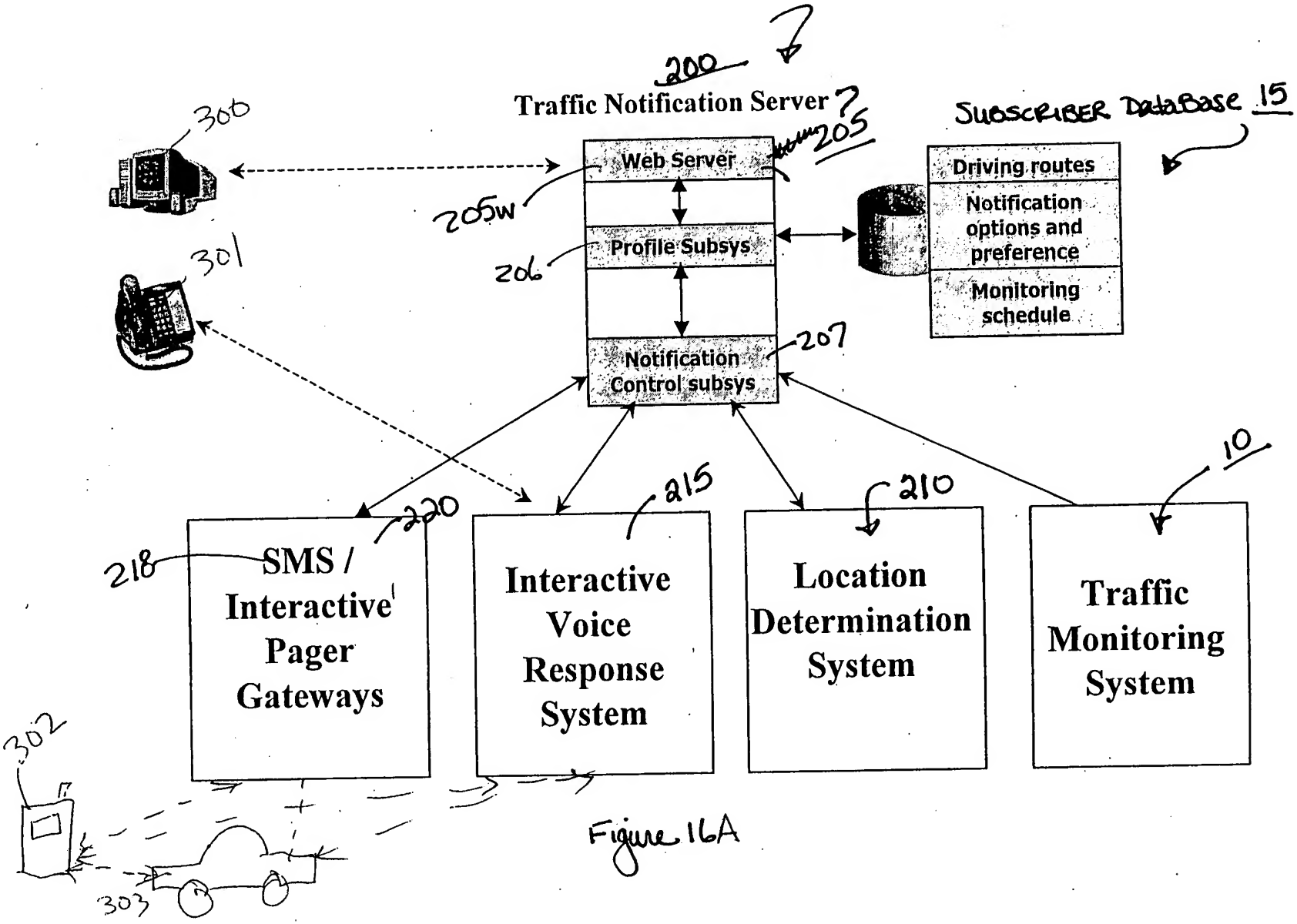
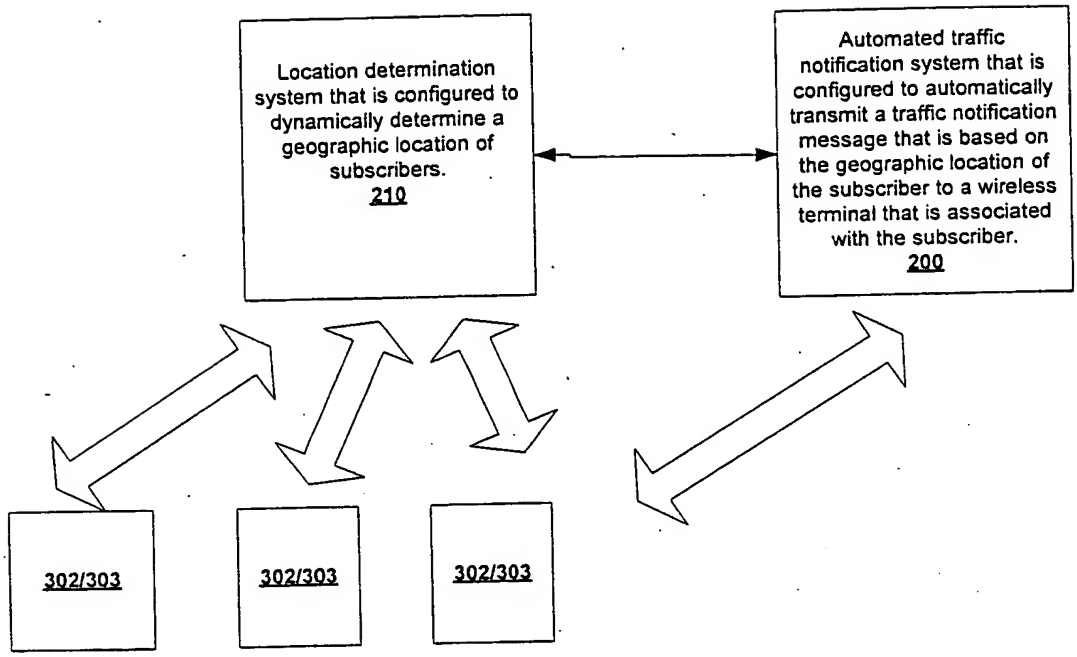


Figure 16A

FIG. 16B


Location determination system that is configured to dynamically determine a geographic location of subscribers.
210
Automated traffic notification system that is configured to automatically transmit a traffic notification message that is based on the geographic location of the subscriber to a wireless terminal that is associated with the subscriber.
200
302/303
302/303
302/303

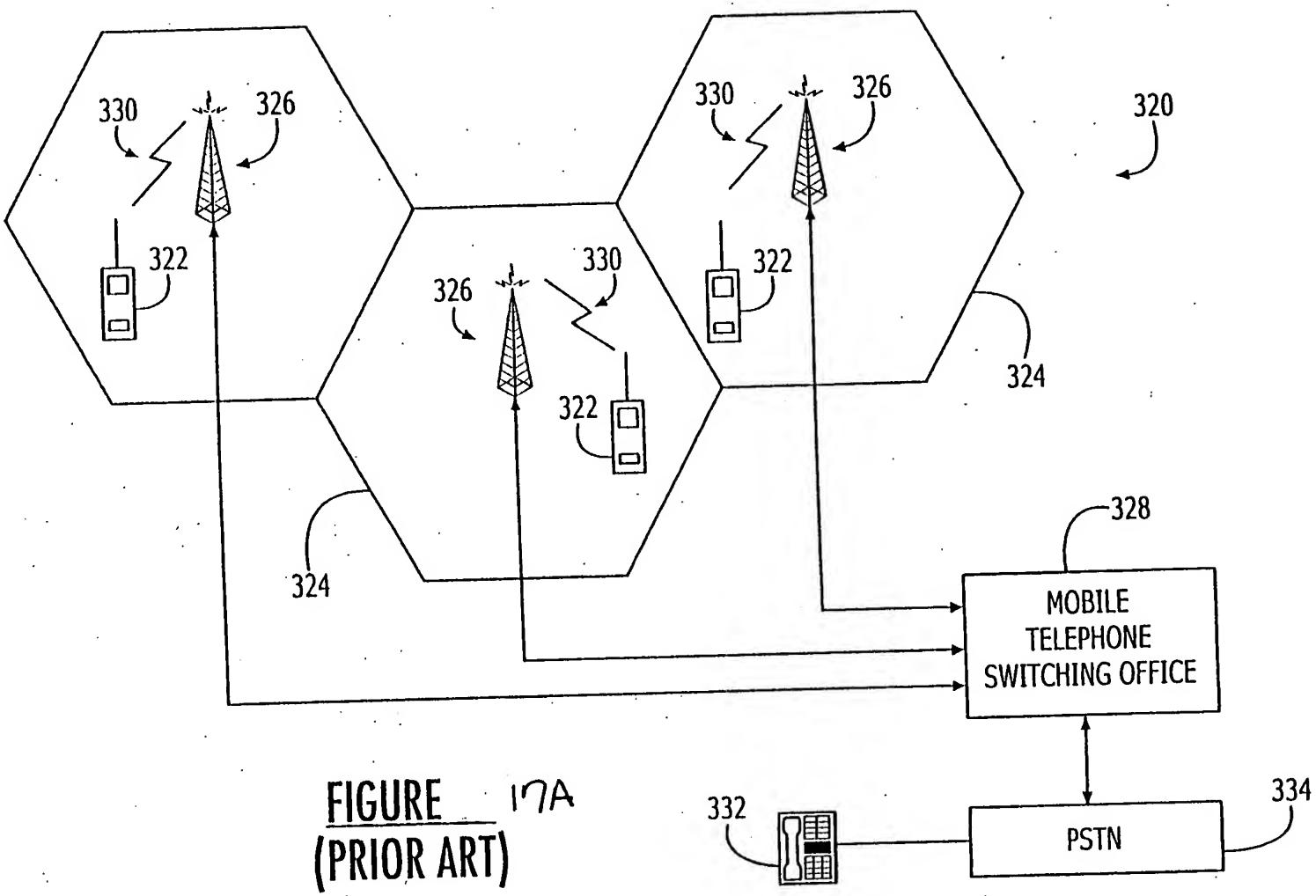


FIGURE 17A
(PRIOR ART)

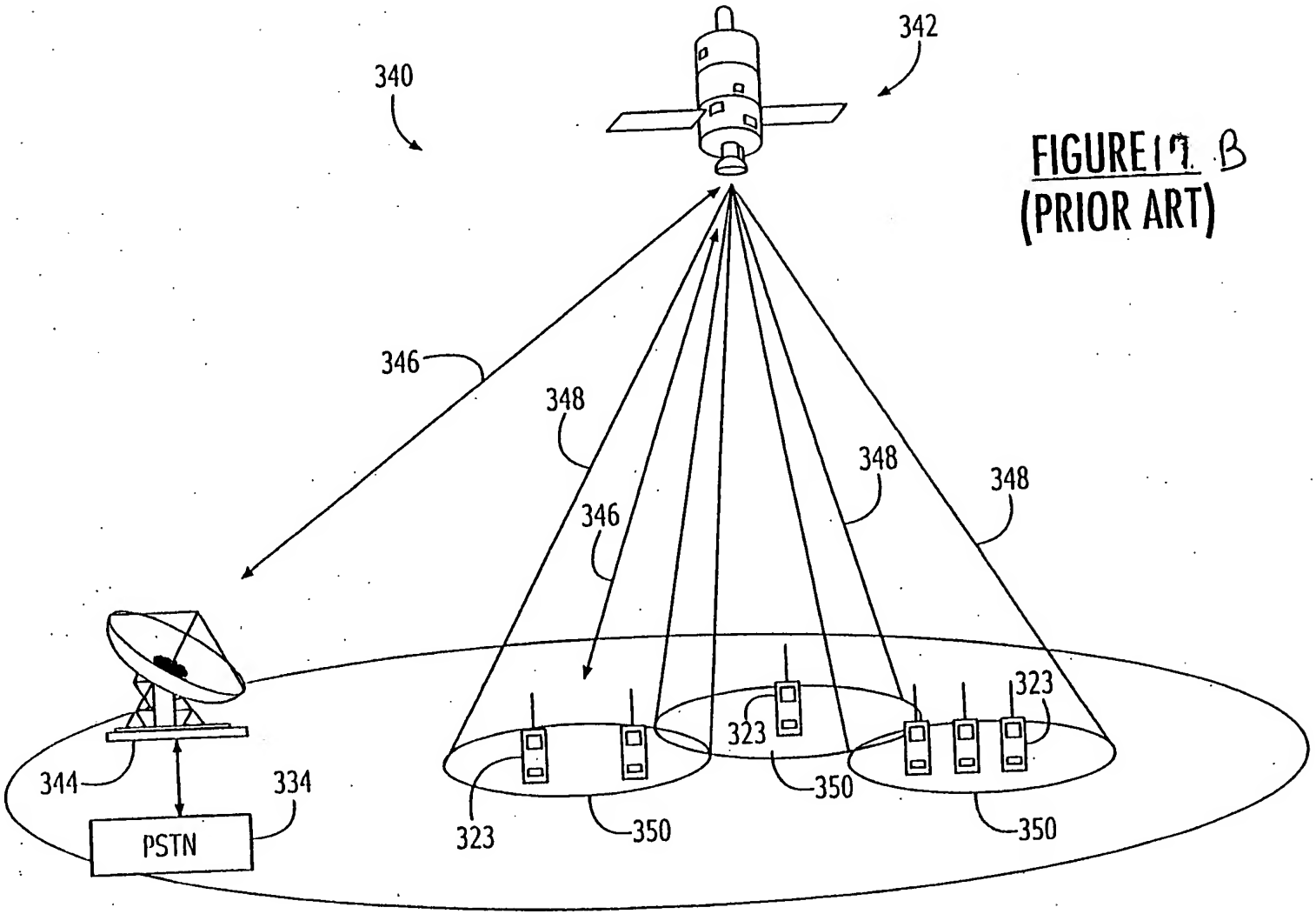


FIGURE 17 B
(PRIOR ART)

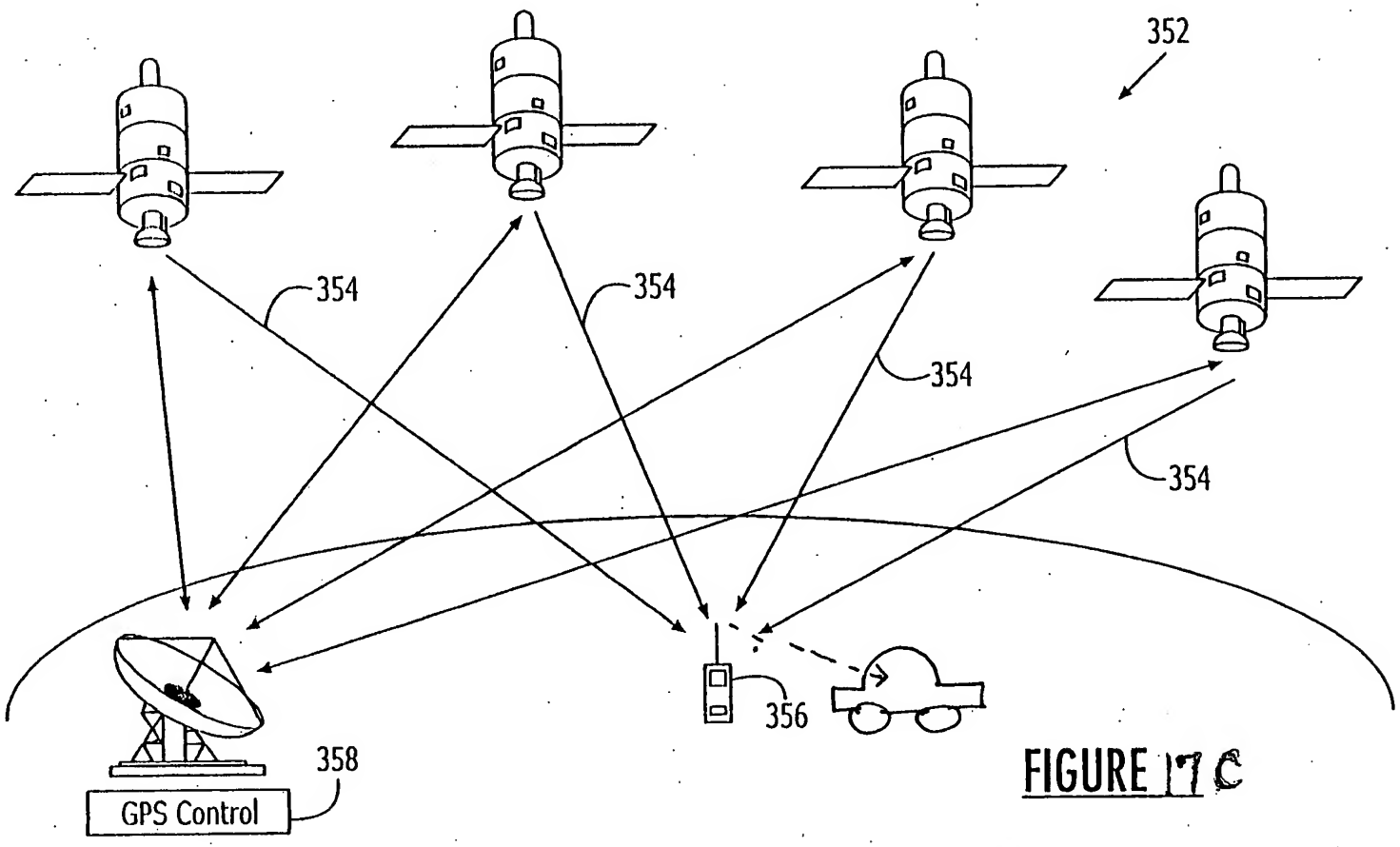


FIGURE 17C

FIG. 18

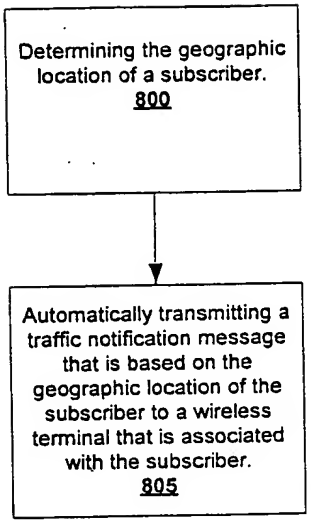

Determining the geographic location of a subscriber.
800
Automatically transmitting a traffic notification message that is based on the geographic location of the subscriber to a wireless terminal that is associated with the subscriber.
805

FIG. 19

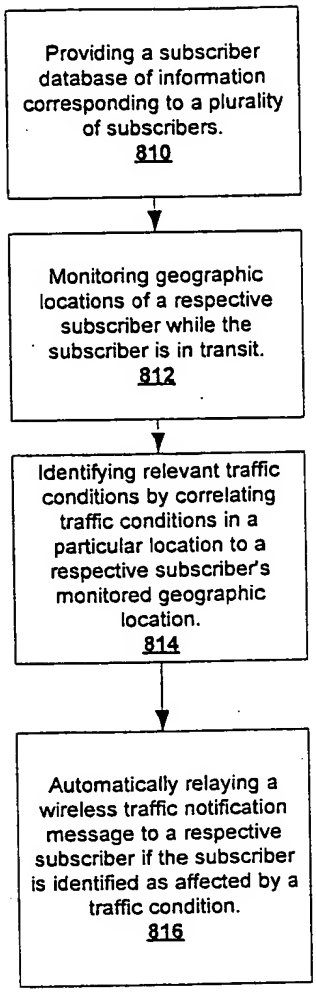

Providing a subscriber database of information corresponding to a plurality of subscribers.
810
Monitoring geographic locations of a respective subscriber while the subscriber is in transit.
812
Identifying relevant traffic conditions by correlating traffic conditions in a particular location to a respective subscriber's monitored geographic location.
814
Automatically relaying a wireless traffic notification message to a respective subscriber if the subscriber is identified as affected by a traffic condition.
816

FIG. 20

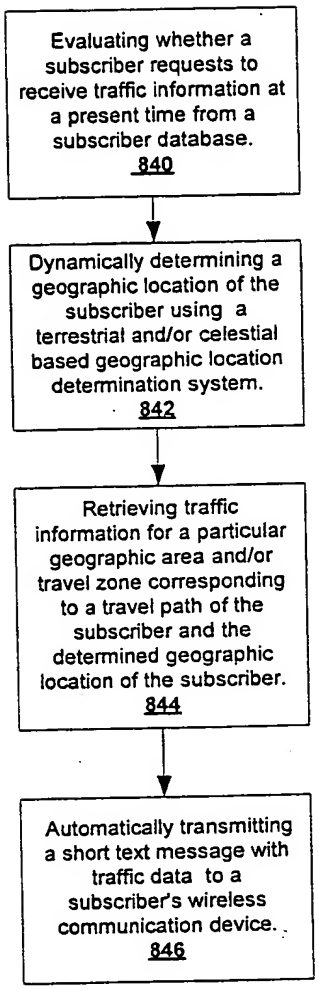
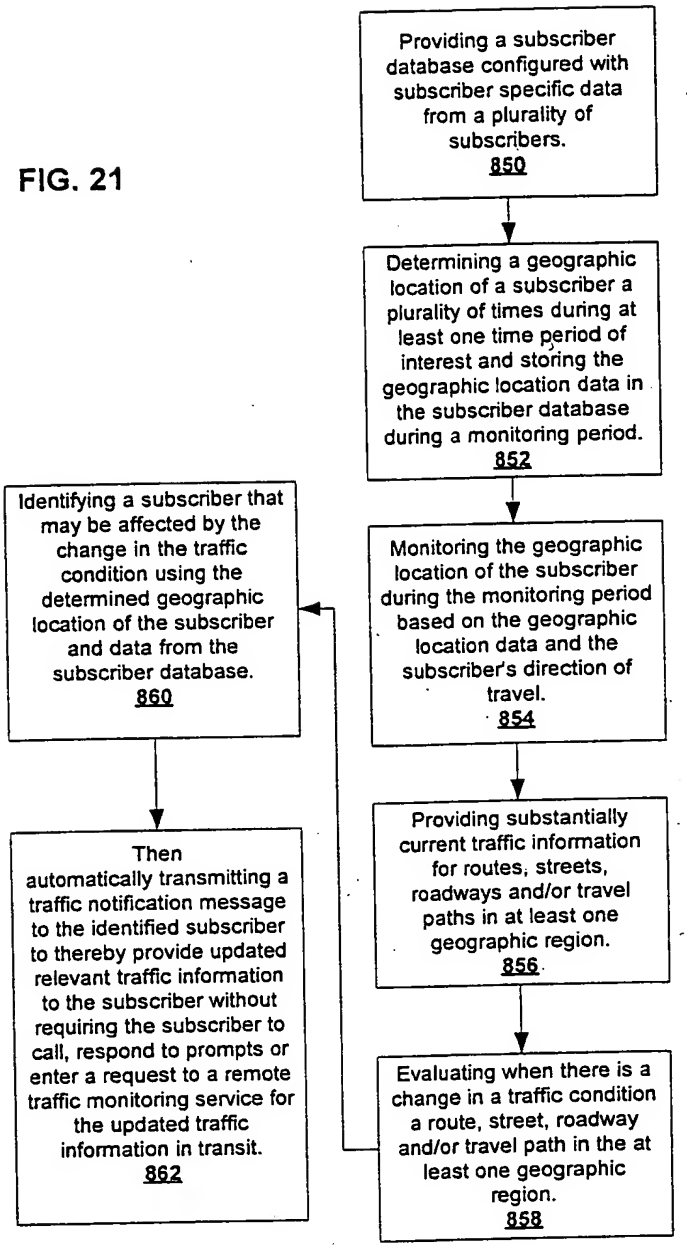

Evaluating whether a subscriber requests to receive traffic information at a present time from a subscriber database.
840
Dynamically determining a geographic location of the subscriber using a terrestrial and/or celestial based geographic location determination system.
842
Retrieving traffic information for a particular geographic area and/or travel zone corresponding to a travel path of the subscriber and the determined geographic location of the subscriber.
844
Automatically transmitting a short text message with traffic data to a subscriber's wireless communication device.
846

FIG. 21


Providing a subscriber database configured with subscriber specific data from a plurality of subscribers.
850
Determining a geographic location of a subscriber a plurality of times during at least one time period of interest and storing the geographic location data in the subscriber database during a monitoring period.
852
Monitoring the geographic location of the subscriber during the monitoring period based on the geographic location data and the subscriber's direction of travel.
854
Providing substantially current traffic information for routes, streets, roadways and/or travel paths in at least one geographic region.
856
Evaluating when there is a change in a traffic condition a route, street, roadway and/or travel path in the at least one geographic region.
858
Identifying a subscriber that may be affected by the change in the traffic condition using the determined geographic location of the subscriber and data from the subscriber database.
860
Then automatically transmitting a traffic notification message to the identified subscriber to thereby provide updated relevant traffic information to the subscriber without requiring the subscriber to call, respond to prompts or enter a request to a remote traffic monitoring service for the updated traffic information in transit.
862